MISSOURI BOTANICAL GARDEN

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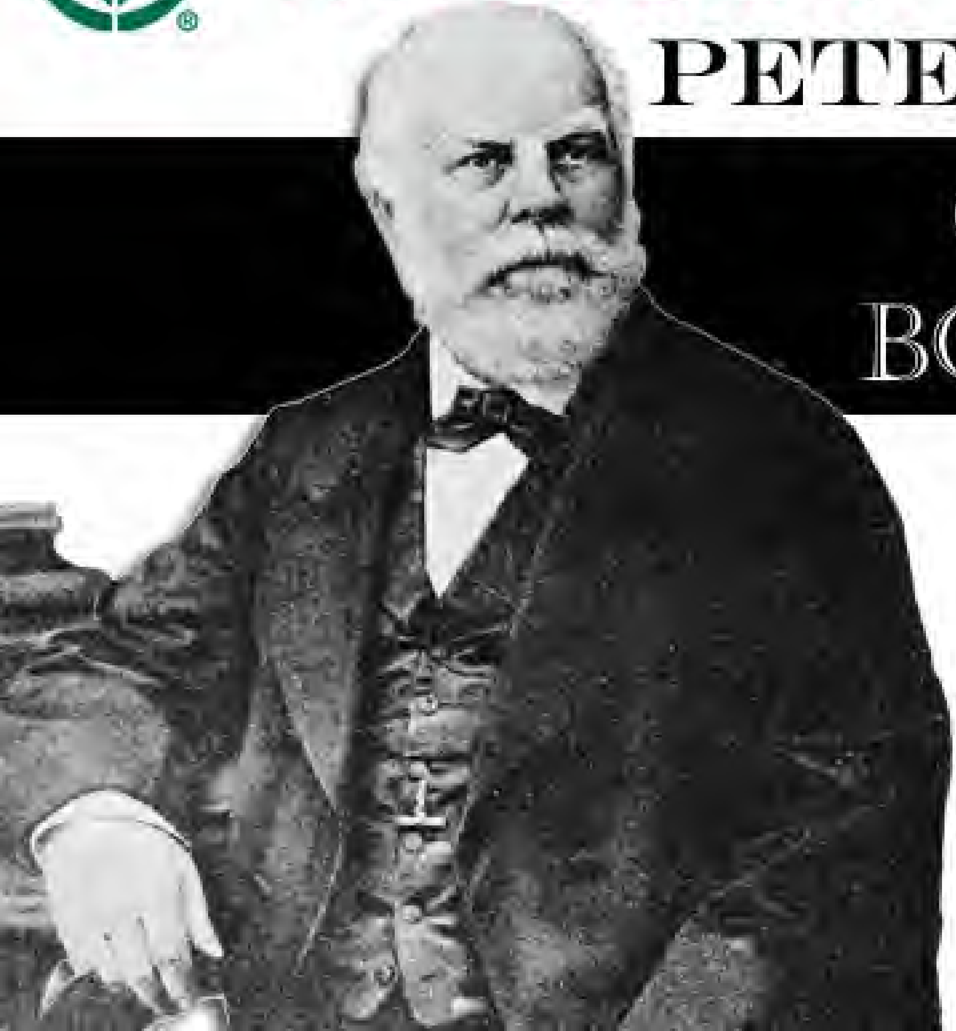

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1

Juncus acutus L. has been found by Prof. Brewer of the Calif. State Survey near San Luis Obispo "where it is abundant in a stream ~~betw~~ in the hills between the town and the landing of the same name a few miles from the sea" otherwise absolutely identical with ~~th~~ European specimens (~~but~~ with a more compact, branching inflorescence, some of the long pedunculate rays of which are 5-6 inches long E.)

I have also seen specimens said to be derived from the coast of New Jersey; Baldwin collected it on the Rio de la Plata in South America, and Chamisso and Gaudichaud — brought it from the coast of Brazil & Montevideo, though Kunth En. III. 323. wrongly throws doubt on their locality. J. macrocarpus Nees from the Cape of Good Hope is the same species to which most probably several other nominal species will have to be referred.

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2

Welp. Jan. 3. 65

Juncus Roemerianus Scheele in Linnaea 22. 348

J. maritimus auct. quoad plantam boreali-Americanam. Rhizomate longe repente (atrato); caulibus robustis teretibus, basi folia, foliis similibus eis aequilonga ferentibus; spatha subulata supradecomposita paniculato-effusam longe superante; glomerulis 3-5 floris; sepalis ovato-lanceolatis 5 nerviis, exterioribus acuminatis, interioribus brevioribus obtusis saepe mucronatis; staminibus sepalis dimidia ~~longa~~ superantibus; antheris demum deciduis lato-linearibus, ~~staminum~~ filamento ter quaterve longioribus, ~~Capsula~~ stylo ovario ovato ~~duplo~~ multo breviore, capsula ovata obtusa minute mucronata sepala exteriora aequante, placentis maxime tumidis trilocularem, seminibus late obovatis obtusis tenuissime sub lente costatis.

Atlantic Coast of U.S. from New Jersey to Florida & Texas. Closely allied to J. maritimus for which it has always been taken, until Scheele, ~~&c~~ without discovering its distinctive characters gave it a new name; — It is ~~distinguished~~ characterized by its open, spreading panicle with flexible branches, (ephemerous its deciduous anthers, its very short style (not half as long as the obtuse ovary), its obtuse shorter deep brown capsule, its remarkably large spongy placentae (such as I have not seen in any other species), which fill the greater space of the cavity of the capsule, — and its obtuse tailless seeds with very slight wavy ribs and slight cross lines; ~~seeds~~ J. maritimus of Europe has an ~~erect~~ strictly fastigiate inflorescence, with rigid branches, persistent anthers, an ovary attenuated into a style of nearly its own length, an acute greenish capsule, mostly longer than the sepals, placenta of ordinary thickness, not one fourth as large ~~as~~ those of the allied species, and seeds with distinct tails and stronger ribs.

The light brownish flowers are 1/2 lines long (more or less) and the seeds 0.3 lin. long and nearly 0.2 l. thick.

9893

The Laurel species is the only one in which I have repeatedly found unisexual specimens (Georgia, LeConte & hb. Acad. Phil., Florida, Chapman in hb. A Gray), where ~~the~~ with a fertile ovary the stamens are abortive, though indicated, ~~and the pistil ovary fruit fertile~~. ~~I would ask discover~~ Botanists who have an opportunity to study the living plant ~~might~~ ascertain whether there occur any corresponding ~~antheriferous~~ and sterile specimens.

3

Juncus compressus HBK. Nov. gen. I. 235. 4

~~Schlecht. Linn. 6. 41 ex pl. Schied. & Depp.~~

Rhizomate repente, caulibus (palmaribus sesquipedalibus) compressis ~~[illegible]~~ siccis tenuiter striatis, vaginis aphyllis ~~nudis~~ seu saepius folio ~~(compresso tereti~~ culmo simillimo breviori gerentibus; folio spathaceo aequante s. superante) paniculam lateralem pauciramosa, compositam s. decompositam florum singulorum saepius secundorum sepalis lanceolatis exterioribus acutis seu subulato acutatis, interioribus paulo brevioribus obtusiusculis; stamina sex dimidia s. tertia parte superantibus; antheris late linearibus filamento brevi multo (quadruplo quintuplo) longioribus, stigmatibus ovarium cum stylo aequilongo s. paulo breviori fere aequantibus; capsula ovata acuta (indehiscente?) triloculari; seminibus ovatis obtusis vix apiculatis, laeviusculis.

Salinas Valley, in sandy River bottoms, May 5th in flower. Calif. State Surv. No 529 — the only locality in our territory known to me; Dr J. Gregg collected the same in northern Mexico, a smaller form with very short spathe at San Juan de la Vaqueria 8 inches high and a larger stouter one, 12–18 inches high with longer spathe near San Pablo; the California specimens are 10–15 inches high, with a spathe 2–4 inches long. The presence of leaves in this plant in ~~the~~ 3 localities mentioned made me doubtful whether it should be referred to Humboldt's species; but as I learn from Prof. Braun that the original specimens also show leaves, I must take it as an oversight that ~~that character has~~ the species has always been classed with the leafless ones. — ~~Kunth has~~ Schlechtendal (~~Linnaea~~. VI. 41) see also Kunth En. III. 317 already mentions a leafy form of this species.

The California specimens have very much the appearance ~~and the smaller one of~~

of J. filiformis; ~~the long~~ slender culm and few flowered small panicle, the reddish colour of the sepals very pale; the San Pablo specimens of Dr Gregg are much stouter and bear a panicle 2–3½ inches long of 3–4 approximated branches. # The only capsule I have seen, ~~was~~ (not ripe) ~~and~~ was shorter than the sepals, and had a few large ovate seeds, ~~about~~ 0.37 l. long, and ~~almost without marks~~, apparently ~~very~~ slightly lineolate so as to appear almost smooth.

The sepals are greenish, on the back with very light brown ~~lateral lines and~~ on the sides and membranaceous margins;

This plant is evidently very but paler closely allied to J. Balticus; very similar it bears the same flowers with stout long anthers ~~with~~ on very short filaments, ~~etc~~ ~~but is paler and has the compressed~~. but the remarkably flat [illegible] stem and the frequent occurrence of leaves distinguish it readily.

In this connection it may be stated that ~~Among~~ Fendlers Santa Fe Plants there ~~occurs~~ ~~it is worth while to state~~ under No. 866 with the legitimate J. Balticus (small specimens 6 or 7 inches high with the dark flowers of J. Balticus ~~but~~ a (slightly compressed stem), occurring leafless at the base of the an intermediate form?

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4

Juncus Breweri, n. sp.; rhizomate perpendiculari; (caespitosis) caulibus (pedalibus) compressis, laevibus basi fuscis ~~vaginis~~ ~~fuscis~~ ~~striatis~~ ~~obtusis~~ muticis nervosis (foliis spathaeque ~~muticis~~; pauciflorum ~~[illegible]~~ laterali ~~[illegible]~~ ~~compacto~~ subsimplicissima longe superante) floribus singulis; sepalis ~~ovatis~~ subaequalibus ovatis abrupte acuminatis, late marginatis; staminibus sex ~~quarta~~ parte superantibus; antheris lato-linearibus filamento brevi multo (quadruplo quintuplo) longioribus; stigmatibus ~~stylo~~ ovarium cum stylo aequilongo aequantibus exsertis. Capsula — seminibus — .

Wet sandy soil near Monterey, California, ~~Wm H Brewer~~, ~~of the~~ Calif. State Survey, No 651; ~~[illegible]~~ in flower in the latter part of May. — The perpendicular rhizome (if a constant character) and the strongly compressed, but not caespitose, stem (together with the broad and abruptly acuminate sepals) readily distinguish this species from the smaller forms of J. Balticus to which at first glance it bears a strong resemblance. ~~From~~ J. compressus the want of leaves ~~[illegible]~~ from both by the broad sepal properly. Stems a foot high, 4 or 5 inches of which belong to the ~~bract~~ spathe; inflorescence small, rather compact; flowers about 2½ l. long, sepals dark brown ~~with~~ greenish in the middle, ~~white~~ membranaceous on margin. Named for Prof. Wm H Brewer of the Califor. State Survey, ~~[illegible]~~ other species.

9895

is well characterized by its ~~strong~~ and large anthers on very short filaments, which among its allies are only found again in J. compressus & J. Brewerii. It is

5

1

Juncus Balticus (~~This most~~ interesting species on account of its remarkable geographical distribution. Originally found on the shores of the Baltic sea it was traced to those of the Northsea in Germany as well as in Scotland. ~~It is now known~~ It was then discovered on our northern Atlantic shores from Newfoundland to Massachusetts; ~~and has~~ thus far it maintained its seaside home but now it suddenly makes its appearance in several swamps in Lancaster County (Pennsylvania), in the interior of it, and all along the Great Lakes it is a common plant — not unexpected, as on their shores we meet with many seaside plants, such as Cakile, Lathyrus maritimus, Euphorbia polygonifolia and others while not a trace of salt we can discover in them. Is it then the oceanlike spray of the waves of those immense bodies of fresh water, is it the ever ~~varying~~ formation of downs, which invites seaside plants or are they the remnant of a ocean coast vegetation from a time when the bed of these lakes were filled by an immense arm of the sea? Be that as it may ~~But From~~ Lakes Michigan ~~& Superior~~ ~~home~~ our species ~~leaves~~ now leaves the ~~Water~~ Lakes and ~~finds~~ appears again on the Upper Mississippi and St Peters Rivers then northwest and into the ~~Hudson Bay~~ British possessions and ~~then~~ westward to the headwaters of the Missouri (Mauvaises Terres) and to the and now and ~~hence~~ then along the Rocky Mts down to Colorado and New Mexico and ~~further~~ west to the Cascade Mountains of Oregon. On the Pacific ~~Ocean~~ Coast we then find it again (as a true saltwater plant ~~in a [illegible] then form~~), extending from the ~~[illegible]~~ northern Russian Islands to California and appears again on the Coast of Chili. —

We recognize ~~different forms~~ in its different homes; and the Pacific plant is so ~~diff~~ distinct that eventually it ~~may possibly form a~~ may have to be regarded as a distinct species.

9896

5 r2

Caulibus fertilis rigidis durioribus
~~panicula~~ laxioribus ramis [illegible];

Juncus Balticus { floribus minoribus, capsula obtusa mucronata, seminibus grossis, lineolatis

Europaeus sepalis exterioribus acutioribus longioribus capsulam late ovatam obtusam mucronulatam subaequantibus; antheris brevioribus filamento duplo longioribus; seminibus ovatis obtusis breviter ~~appendiculatis~~ apiculatis (Europ. Lakes

~~Orientalis – Americanus~~ sepalis iisdem capsulam acutius angulatam angustiorem longius mucronatam ~~fere~~ aequantibus; antheris ~~longioribus~~ majoribus filamento brevissimo quadruplo longioribus; seminibus ut ~~supra~~ ~~longi~~ praecedenti ~~iisdem~~, &c. ~~obtusioribus~~ East [illegible] coast to the Mississippi;

Montanus sepalis ~~fere~~ aequilongis ~~superantibus~~ aequalibus s. interioribus obtusioribus; antheris ut ~~supra~~ praecedentis; capsula ovato-pyramidata, angulata ~~longe~~ rostrata, seminibus minoribus angustioribus longius apiculatis Western Plains and Mountains

Juncus Pacificus caulibus saepe fistulosis mollioribus, panicula densiflora ~~multiflora~~ rarius ~~[illegible]~~ secundiflora, floribus majoribus, sepalis exterioribus ~~paulo longioribus~~ acutissimis interiora obtusa paulo superantibus; capsulam ovatam acutam ~~mucronatam~~ obtusangulam aequantibus ~~[illegible] superantibus~~; antheris majoribus filamento brevissimo quadruplo quintuplo longioribus; seminibus majoribus ovatis obtusis breviter seu vix apiculatis tenuissime irregulariter reticulatis seu ~~[illegible]~~ laevissimis

(descr. from Specimens from the ~~[illegible]~~ [illegible] near San Francisco.

J. Lesueurii Boland. in Proc. Ac. Calif. 2. 179
J. Balticus Benth. in Pl. Hartweg. p. 341.
J. compressus E. Mey. in ~~Lehm.~~ Cham. Linnaea III. 368. is a Chilian plant of which to judge from a few flowers seen also belongs here.

J. Haenkei E. Mey. syn. Junc. p. 10 (J. compressus β. Mey. Syn. Luzul. p. 27 & in Linnaea 3. 36.) J. Balticus Kunth En. 3. 317 & E. Mey. in Ledeb. Fl. Ross. 4 p. 223 is either a few flowered northern form of this, from Unalaska etc. or a form uniting the true Balticus with this Pacific plant, with which it has the reticulate seeds and larger flowers in common.

6

Juncus procerus E. Meyer Linn. 3. 367. ? Culmo erecto elato (tripedali) tereti (farcto stricto) basi vaginis atrofuscis obtusis breviter aristatis ~~farcto~~ stipato; spathi ~~diformi~~ ~~[illegible]~~ panicula decomposita densiflora, multiradiatam corymbiformem longe superata; ~~floribus~~ singulis; ~~sepalis~~ aequalibus lanceolatis externis subulato acuminatis, interioribus obtusis mucronatis capsulam ovatam subacutam trilocularem aequantibus; staminibus 3, sepalis 1/4 ~~parte~~ brevioribus ~~dimidiis, antheris longioribus~~, antheris linearibus filamento ~~parte~~ longioribus; seminibus (~~ovatis~~ inaequalibus).

In Brakish Marshes, San Francisco; Bolander. —

In its technical characters especially in the sepals and capsule this plant corresponds well with Meyer's J. procerus; but a specimen collected in Chili by D'Urville and preserved in the Royal Herb. at Berlin is a very different plant, with loose-flowered more decompound panicle, much smaller flowers and smaller, narrower, long-apiculate, finely reticulate ~~seeds~~ — ~~[illegible]~~ in all respects but the obtuse inner sepals and the ovate ~~[illegible]~~ capsule similar to J. effusus. — Our plant has a compact inflorescence of 10–15 [illegible] much longer flowering, and hairy branches of nearly equal length, (1½ times) longer stamens and anthers, and much larger and thicker lanceolate seeds; but unwilling to ~~[illegible]~~ give new names to incompletely known plants I provisionally refer this to Meyer's J. procerus, but suggest the possibility of its being a hybrid between J. effusus and J. Balticus var. pacifica, which grows together with it in those Brakish swamps. It seemed to me that very few and imperfect seeds only could be found in the otherwise good specimens I have before me, and that in size and form the seeds as well as the flowers, ~~the~~ capsule and the anthers are intermediate between the two while the number of the stamens is that of J. effusus.

Over

The disseflowers & panicle is

F discovered it at Monterey, California (not ~~Montreal~~ or Real del Monte or Montreal, Canada, as Haenke's localities are sometimes misquoted

J. patens E. Meyer. Syn. Luzul. p. 28 Reliq. Haenk. I. 141
J. compressus E. Mey. Syn. Junc. p. 16. non Hook.

A very interesting and quite distinct species, which since ~~Haenke~~ F does not seem to have been collected until Mr Bolander and Prof Brewer obtained it in different California localities, near San Francisco, and in the Santa Lucia Mountains. Meyer's description in Rel. Haenk. l.c. is so complete that little has to be added. ~~The densely cespitose stems are (rigid) slender but 15 inches to 2 or 3 feet high (about 1 to 15 inches high) (and compressed) including a spathe of 3 or 4 to 8 or 10 inches in length; the panicle is even in the larger specimens not very crowded and consists of 3-5 principal sessile in the more slender specimens, with a loose flowered panicle with their ultimate branchlets somewhat onesided; the larger stems (with the spathe) 3 feet high are thicker, stouter, terete overtop with a larger denser flowered more crowded panicle, on which the onesided flowers (indicated only by Meyer in the phrase: "flores subsessiles in ramis recurvatis" whence the specific name) are more numerous and more conspicuous than in the smaller forms. The spathe overtops the panicle is 3 or 4 to 8 or 10 inches long; the panicle consists of 3-5 principal branches and is 1-2 inches long.~~

The densely cespitose slender but rigid stems however ~~are~~ not compressed as Meyer states, but ~~almost~~ terete and distinctly striate, ~~and~~ 15 inches to 2½ or 3 feet high, including the elongated spathe of 3 or 4 to 8 or 10 inches in length; their base ~~is clothed~~ surrounded by elongated sheaths brownish at base and greenish straw colour upwards, tipped with a red ~~long~~ conspicuous awn; — the panicle 1-2 inches in length consists of 3-5 longer branches with the flowers on the ultimate branchlets onesided (indicated by Meyer in ~~Rel. Haenk.~~ by the phrase: fl. subsess. in ramis recurvatis — whence his specific name). The smaller specimens have ~~smaller~~, more loose flowered panicles, on more slender stems; —

Flowers ~~fully~~ not quite as large as those of S. Hellerii, but lighter colored, and; sepals ~~lanceolate~~ acute, exterior ones subulate at tip, equalling or scarcely exceeding the inner ones, ~~or equalling them~~; spreading in fruit; stamens about half the length of the sepals, and anthers & filaments nearly equal. ovary with the ~~very~~ short ~~pistil~~ style about the length of the stigmas. The subglobose acuminate capsule, ~~it~~ is a little shorter than the sepals, ~~and bursting~~ by opens with septifragal dehiscence, the three placentae with thin ~~membr~~anaceous wings, (the remnant of the dissepiment) remaining in the center. The very numerous seeds are ovate obtuse, ~~finely~~ delicately lineolate, ~~with~~ usually oblique ~~with~~ obliquely apiculate, 0.22 to 0.30 lin. long. —

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10

Juncus Smithii, n. sp. trigonantha? vaginis? foliis? caulibus teretibus farctis siccis lineolatis, anthela pseudo-laterali laxa (pauciflora subsimplici) spatha longissima; floribus singulis; sepalis aequilongis exterioribus acutatis interioribus obtusis; staminibus 6; capsulae ovato-subglobosae exsertae mucronatae (fuscatae) & dissepimentis tenuissimis fragilibus; seminibus obovato-oblongis utrinque obtusis, vix appendiculatis (testa pulchre producta) ~~striis~~ angustis nitide (sub lente) reticulatis.

~~Abundant~~ In a Sphagnous swamp on Broadmountain near Pottsville Schuylkill Co Pennsylvania discovered by Mr Chs E. Smith of Philadelphia (9 June 1865), for whom this interesting species is named. "Waiting the arrival of a train of the Mahonoy and Broad Mountain Rail Road I walked into the swamp where this Juncus caught my eye, and I tore off a few fragments, which were preserved between the covers ~~of~~ my valise". This accounts for the incomplete state of the few fruiting specimens, ~~the~~ ~~Smith~~ brought home; but it permits us to expect through him more and better specimens from ~~that~~ region quite familiar to him, though as he writes as yet scarcely explored by botanists. In the coming season he will be able to solve the question whether this ~~spec~~ interesting species has (like its close ally the southern J. setaceus ~~(leafy vaginae)~~ radical leaves. The question however will arise, whether this is not the true J. setaceus of ~~with stamens~~ ~~seen~~ to ~~[illegible]~~ Rostkovius which he ~~obtained~~ from Pennsylvania ~~[illegible]~~

The thin wiry stem before ~~me~~ us is altogether 2 feet high, 8 to 9 inches of which belong to the spathe; the flower is only 1 line long (and like the ~~expect~~ longer and shining, almost globular, sharply tipped capsule) light brown; the sepals "spreading; the anthers had all fallen away in the ~~specimens~~ flowers expanded, which is rarely the case in any species of Juncus; filaments quite short; capsule —— see ab.)

The dissepiments are as in its nearest allies extremely thin and ~~may~~ seen in the fully ripe capsule to tear away, leaving

6/23
0.4

the strong placentae central (thus destroying the distinguishing character of ~~Eds~~ sect. Juncus Cephaloxys; I have seen the same in J. setaceus, and in J. Parryi, ~~and~~ J. patens). The seed is (large (comparatively) 0.4 lin. long, and very neatly and distinctly (reticulated, ribbed and) about 8 ribs being visible on the exposed one side. — It seems most closely allied to J. setaceus, which ~~has longer~~ is distinguished by very acute ~~acuminate sepals~~, a larger, ~~but not~~ ~~exs~~ greenish capsule ~~of the same length with the longer and~~ sharply acuminate sepals, and ~~the~~ by subglobose seeds, with fewer ribs (and crossways elongated meshes). —

above Pennsylvania; ~~and~~ what we have all along taken for J. setaceus is another allied species? Rostkovius ~~two obs~~ seems describes the sepals of his plant as "lanceolata, apice subulata", ~~but calls them "Crenea"~~ and suspects that the fruit does not exceed them, both of which characters ~~substitute apply in~~ are found in the plant we call setaceus and not in J. Smithii F ~~It will be proper then~~ ~~to~~ Whether J. setaceus ~~does~~ is ever found in Pennsylvania or whether the plant Rostk. described was only received ~~from Muhlenberg or Schweinitz~~ or ~~some~~ through a Pennsylvania botanist — ~~will perhaps never~~ remains at present doubtful.

F He describes the calyx i.e. the involucral bracts as three leaved — (and indeed we ~~if not usually~~ very often find a third and distinguishes his new species by that character from the allied J. filiformis) bract at the base of the flower not only in setaceus, but also in Smithii, ~~and~~ in tenuis and some other species, but really not in J. filiformis; ~~This 3d bract however~~ the lowest of the 3 bracts however has another value than the 2 next to the flowers; these latter are always sterile and may be considered as belonging to the flower itself, while the first one always bears a rudimentary bud in its axis; it is in short a bract of equal value with the others of the inflorescence.

11.

Juncus setaceus is a singularly leafbearing species though neither its author, Rostkovius, nor many later authors make ~~(1855)~~ ~~Pursh, Elliott Beck and even Steudel~~ mention the leaves — while already E. Meyer in Syn. J. p. 18. (1822) describes them; (Elliott, though he has evidently our plant in view, "2–3 feet high" does not allude to them) ~~in~~ ~~Torrey~~ and Gray and Chapman ~~the leaves~~ are well acquainted with the leaves. Rostkovius quotes Pennsylvania ~~La Harpe ex Newfoundland otherwise~~ as its native country, later authors carry it north as far as Newfoundland, probably confounding it with J. filiformis; but I have seen no specimens from further north than North Carolina, ~~whether~~ to Florida and Louisiana it seems to be a common species. — The species is well characterized by its leafy base, ~~its~~ an ~~exceedingly~~ usually very long spathe, ~~nearly simple~~ fewflowered compact or sometimes ~~effuse~~ "spreading" panicle, frequently 3 bracts under the flowers, lanceolate acuminate nearly equal sepals spreading in fruit; large ~~long~~ capsule nearly globose, compressed ~~rostrate~~ rostrate, dissepiments separating from the valves; seeds subglobose obtuse with short appendages and distinct raphe ~~transversely~~ coarsely lanceolate or almost transversely reticulated; 0.3 l. long or a little longer.

~~Geographical distribution~~

Two thirds of the 50 species, (above enumerated), or 33

23

23,

Geographical distribution.

Of the 50 species, above enumerated, 33, or two thirds are peculiar to our country and 17, or one third, are also found in other parts of the world. Six (J. arcticus, trifidus, biglumis, triglumis, stygius, and castaneus) of these 17 are alpine species, which also inhabit appropriate localities in the old world; three of them grow ~~only~~ almost exclusively on salt water

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3.2 - 3.3

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12:

J. arcticus The only American specimens I have seen ~~came~~ were brought from Greenland, by Dr Kane; they differ in no respect from the Europ. plant; ~~but on the~~ The seeds of this plant are costate-reticulate with 12 to 16 ribs visible on one side, ~~reticulate~~ & crossridges very faint, Seeds in all the specimens examined about 0.4 l. long obovate, obtuse oblique, ~~with~~ short ~~blunt~~ obtuse appendages, in a fold [illegible] shape ~~cons~~

On the Russian Islands Kodiak and Sitcha on ~~our~~ the American North west coast, a form occurs which at present I can only distinguish as forma Sitchensis, but which may prove specifically distinct. The ~~growth, the~~ whole appearance, the few flowered panicle with the very long spathe, the stamens and pistils are the same, but the flowers are larger, the sepals nearly equal, the few capsules seen are turbinate-pyriform, seeds very few, smaller, with fewer ribs. – ~~Better and more numerous specimens are necessary to decide about the relation of this form to the true J. arcticus~~; thus far ~~this form~~ it seems that ~~it~~ this form bears the same relation to the true arcticus, which the J. Pacificus bears to Balticus; more and better specimens must decide.

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Juncus Drummondii E. Meyer in Ledeb. Flor. ~~Ross.~~ 4. 235 (~~1853~~)
J. compressus ~~β~~ subtriflorus E. Meyer in Linnaea 3. 368
J. arcticus Hook fl. Bor. Am. 2. 189. & Bot. Hook. 1. 141. Gray. ~~Proc.~~ Ac. Phil. 1863. p. 77.

Caespitosus, caulibus (pedalibus sesquipedalibus) filiformibus basi vaginatis, vaginis setaceo-aristatis; spatha ~~brevi~~ anthelam simplicem (subtrifloram) plus minus superante; sepalis lanceolatis (acutis vel acuminatis), exterioribus interiora vix superantibus ~~vix longioribus~~; staminibus 6 fere ter exsertilibus superantibus, antheris linearibus filamento paulo longioribus; ovario prismatico-lineari obtuso stylo brevi coronato; capsula ovato oblonga triangulari retusa & triloculari ~~P~~ sepala aequante s. eis breviore; ~~obtusis~~ & seminibus ~~oblongis~~ ovatis ~~longiusculis~~ tenuiter (sub lente) striato reticulatis, ~~longissime caudatis~~.

~~Mts in~~ Colorado (~~to the Californian~~ On alpine heights of the Rocky Mts to the Californian Sierra ~~and thence northward to~~ and northward to the Cascade Mts, and to Unalaschka; β. on Mount Shasta, (California), at an elevation of 8400 feet.

β. humilis caulibus digitalibus, ~~1–2 floris~~, spatha brevissima, 1–2 flora, sepalis obtusioribus.

Stems soft, compressible, 8–17 inches high; always without leaves — and when Meyer l. c. Fl. Ross. says: ~~bl~~ vaginis aphyllis vel intimis folium ~~teres setaceum~~ scapo parum breviorem proferente, he probably had one of the allied leafbearing species before him, which are so much like our plant as to have been almost constantly confounded with it; Spatha usually longer than the flowers ½ to 1½ inches long; in var β. only 2–3 lines long and shorter than the flowers of which usually one is sessile the other pedicelled, just as we find it in J. biglumis; Flowers 3 lines long or more; in β a little smaller, sepals green on back with brown sides and membranaceous margins; exterior ones with many (5–7) nerves. Capsule ~~pyramidal~~ prismatic-oval, retuse, deep brown; seeds including tails ~~often over~~ about 1 line long, tails ~~are~~ as long or longer than the body of the seed, which is ~~only~~ abt 0.3 l. long and ~~about~~ nearly half as thick

with 10–12 ribs visible and distinctly reticulated (under a proper magnifying power) and ~~striolate~~ cross-lined. This is one of the very few species in which the tails are as long or often longer than the body of the seed.

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Juncus Hallii n. sp. (caulibus fere caespitosis (spithameis pedalibus) (filiformibus teretibus ~~striatis~~); ~~vaginis basilaribus foli~~ foliis setaceis ternis ~~binis~~ longe superantibus; spatha anthelam subsimplicem pauciflorum coarctatam vix seu parum superante; sepalis lanceolatis acutis ~~exterioribus~~ paulo longioribus, (capsula ovata retusa ~~acuta~~) staminibus sex duplo superantibus; antheris linearibus filamento vix longiore; stigmatibus sessilibus triloculari vix ~~acuta~~; ovario ovato obtuso stylo ~~obt~~ brevissimo fere capitibus; seminibus oblongo-linearibus (sub lente) striatis reticulatis, utrinque longe caudatis.

J. arcticus var. gracilis A. Gray ~~[illegible]~~ ... Proc. Ac. Phil. 1863 p. 77

An alpine species. Bear Lake Ranche, Colorado, Hall & Harbour Rocky Mountain flora No. 562, found only once. For the former of whom, a zealous student of botany, who all along has insisted on the specific peculiarity of this plant, ~~this species~~ it is named. — It must be a rare plant, which neither Dr Parry nor any one else seems to have obtained.

Stems very slender, from 6–12 inches high, with leaves from 2–5 inches in length, grooved just above the vaginal part ~~below~~, terete upwards, ~~2–3 flowers~~ ~~in the compact inflorescence almost represent a capitulum~~, ~~and the~~ sheathing bract, ~~with foliaceous~~ ~~base~~ Spathe as long as the ... as long or a ~~little~~ scarcely longer than the compact inflor. which consists of 2–5 flowers and almost might be called a ~~capitulum~~ & might together with the long tailed seeds as well class this species with J. biglumis and its allies, if not its closer ~~relationship~~ alliance with J. Drummondii had induced us to place it with the true Junci; at all events it forms the ~~closest~~ easiest readiest transition between these two sections, while through J. Vaseyi ~~unites the~~ ~~with~~ it is nearly allied with the grassy leaved Junci.

at the end

Flowers about 2 lines long ~~Sepals a little over 2 lines long~~; Capsule ~~a little longer~~ deep brown 3 angular-ovate, retuse, as long or a little longer than the acute but not acuminate brown, white margined sepals ~~[illegible]~~.

With Seeds about 0.6 lines long, diameter one third of ~~the~~ length (0.1 ... ~~with~~ tails body of the seed about half as long as

0 1 2 3 4 5 6 7 8 9 10 cm copyright reserved MISSOURI BOTANICAL GARDEN

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of half their length or more
with tails (longer than their diameter); about 10 longitudinal ribs visible on the seed, and reticulation distinct under the proper magnifying power.

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Juncus Parryi n. sp. ~~Caulibus~~ caespitosus caulibus (digitalibus spithameis) setaceis foliis canaliculatis sursum teretibus superantibus; spatha anthelam simplicissimam (plerumque 1–2 florum) superante; sepalis lanceolatis ~~acuminatis~~ exterioribus longioribus ~~acuminato~~-aristatis; stamina 6 fere tertio superantibus antheris linearibus filamento bis terve longioribus; ovario ~~elongato~~ prismatico-lineari in stylum attenuato capsula prismatica acutata exserta triloculari seminibus oblongis tenuiter (sub lente) striatis, longe caudatis.

Juncus arcticus var gracilis? in part A Gray: Sill. Journ. Proc. Ac. Phil 1863 p. 77

var ~~Nevadensis~~

In the Rocky Mountains and the California & Oregon Mts: Colorado 1861 (Dr C C Parry No 360); Hall & Harbour No 561 (California Geological Survey) Sierra Nevada ~~found by~~ Dr Hillebrand Cascade Mountains, Dr Lyall; generally as it seems associated with J. Drummondii.

Stems very thin and wiry, 4–12 inches high; leaves one half to two thirds their length, deeply grooved for over half their length, upwards terete; spathe usually much longer than the flowers, often over 1 inch or more in length; flowers usually 2, very rarely 3, larger than those of its allies, and distinguished by the ~~acuteness~~ bristly sharpness of ~~their~~ the outer sepals, 2½–3½ lines long; (capsule slender, very acute, brown outer ones greenish, with brown sides & white margins, strongly nerved); ~~The~~ ~~the ripe one~~ after maturity the placentae become detached from the valves and ~~remain~~ persist in the center, thus making another species of Cephaloxys Desv., which genus ~~is of as~~ based on the fragility of the thin membranous dissepiment is of as little value as the genus Marsippospermum of the same author, which is founded on the loose saccate testa

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epidermis is produced beyond the seed into ~~empty~~ tubular points; ~~these characters cannot be used~~ All the transitions from this to the ordinary state are found in all sections of Juncus — so that even the attempt to divide J. in two principal sections, made by E. Meyer in Ledeb. Flor. Ross. must remain unnatural & is futile.

Whole seed ~~0.4 l. long~~, with the tails about 1 l. long; body of the seed 0.4 l. long ~~the tails~~, their length 2½ as much as the thickness; 10–12 (~~striae~~ longitudinal, visible on the side, ~~and~~ no distinct cross ribs in any individuals; tails ~~from~~ ½ to nearly the whole length of the body of the seed.

The California specimen before me is 5–6 inches high; has capsules not exceeding the larger sepals, and ~~single~~ smaller thicker & seeds which ~~are~~ ~~slightly striate~~ exhibit some cross striation.